

REMARKS

Claims 1-23 remain in the application.

Claims 4-23 have been withdrawn.

New claims 24-26 have been added. The Examiner is respectfully requested to enter these new claims for consideration in this application. Support for claims 24-26 may be found on page 3, lines 1-13, page 4, lines 12-15, and page 7, lines 3-9 and Figs. 1 and 2.

Section 103(a) rejection of claims 1-3

In section 7 of the Office Action, claims 1-3 were rejected under 35 U.S.C. 103(a) as being unpatentable over York (U.S. Pat. No. 3,520,664) in view of Katori et al. (JP 63-299219A) and Barnard et al. (U.S. Pat. No. 5,919,580).

Claim 1 has been amended to recite the following limitation:

"at least a single nanolamination of an amorphous material selected from the group consisting of Al_2O_3 , SiO_2 , ZrO_2 , yttria-stabilized ZrO_2 , TiO_2 , HfO_2 , Ta_2O_5 , Si_3N_4 , AlN , B_4C , SiC and Si_4N_4 , wherein said nanolamination is a discontinuous layer embedded within the magnetic alloy."

This limitation is consistent with the preferred nanolamination materials (page 11, line 22 to page 12, line 4). York disclosed a nucleating layer that is discontinuous and comprises a metal selected from the group of Ag, Cr, Co, Ta, Fe, Au, Cu, Ni, V, and Ti.

Since York teaches a discontinuous nucleation layer comprising metals, and there is no teaching of nanolaminations of amorphous insulating materials, Applicant submits that the

references do not teach or suggest the invention as claimed. Therefore, the Examiner is respectfully requested to withdraw the rejection with respect to claim 1. Since claims 2 and 3 are dependent on independent claim 1, and the ground of rejection with respect to claim 1 has been overcome, the Examiner is respectfully requested to also withdraw the rejection with respect to claims 2 and 3.

Section 103(a) rejection of claims 1-3

In section 8 of the Office Action, claims 1-3 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamoto et al. (U.S. Pat. No. 6,456,466B1) in view of Katori et al. (JP 63-299219A) and Barnard et al. (U.S. Pat. No. 5,919,580).

Claim 1 of the invention has been amended to recite the following limitation:

"at least a single nanolamination of an amorphous material selected from the group consisting of Al_2O_3 , SiO_2 , ZrO_2 , yttria-stabilized ZrO_2 , TiO_2 , HfO_2 , Ta_2O_5 , Si_3N_4 , AlN , B_4C , SiC and Si_4N_4 , wherein said nanolamination is a discontinuous layer embedded within the magnetic alloy."

The claimed nanolamination is an amorphous material comprising a discontinuous sublayer that is embedded within a continuous magnetic layer having a significantly greater thickness than the nanolamination (Page 3, lines 5-7). The magnetic layers have a preferred thickness of approximately 26 Å and the nanolaminations have thickness in the range of 0.2 to 2 Å.

In contrast, Nakamoto et al. teach a shield layer comprising discontinuous layers of magnetic material and insulating material each having thicknesses in the range of 0.5 to 5 nm to obtain sufficient permeability and resistivity of the shield (Col. 4, lines 34-38). The reference also teaches that in the case of a continuous multi-layer including a thick ferromagnetic metal layer, the resistivity is nearly of the order of resistivity of the bulk material. Therefore, in view of resistivity, a discontinuous multi-layer is required instead of a continuous multi-layer (Col. 4, line 66 to Col. 5, line 9). Therefore, the Nakamoto et al. reference teaches away from the nanolaminations of insulating material embedded in a magnetic alloy of the invention.

Since Nakamoto et al. teaches a discontinuous magnetic material, and teaches away from nanolaminations of insulating material embedded in a magnetic alloy, Applicant submits that the references do not teach or suggest the invention as claimed. Therefore, the Examiner is respectfully requested to withdraw the rejection with respect to claim 1. Since claims 2 and 3 are dependent on independent claim 1, and the ground of rejection with respect to claim 1 has been overcome, the Examiner is respectfully requested to also withdraw the rejection with respect to claims 2 and 3.

The other documents cited by the Examiner, but not applied to the claims currently in the application, have been reviewed and, as understood, do not teach or suggest Applicant's claimed invention.

In view of the preceding amendments and remarks, Applicant believes that all the grounds for objection and rejection have been overcome and the pending claims are in condition for allowance and such action is respectfully requested.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "William D. Gill", is written over a solid horizontal line.

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